Environmental Impact Statement Guidelines for the Environmental Assessment of the Sydney Tar Ponds and Coke Ovens Sites Remediation Project

August 30, 2005

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1. BACKGROUND

1.1 Context

On May 12, 2004, the Minister of Public Works and Government Services Canada (PWGSC) on behalf of Canada, and Premier of Nova Scotia signed a Memorandum of Agreement (MOA) with respect to the proposed remediation of the Sydney Tar Ponds and Coke Ovens sites (the Project), located in the Cape Breton Regional Municipality (CBRM), Nova Scotia. The Project would be carried out employing a combination of proven technologies, including permanent installation of surface and groundwater controls, bio-remediation, removal and destruction of selected polychlorinated biphenyl (PCB) and polycyclic aromatic hydrocarbon (PAH) contaminated sediments, solidification and stabilization of remaining materials, the construction of permanent engineered caps and restoration of the sites to facilitate future use.

The Project is subject to an Environmental Assessment (EA) pursuant to the *Canadian Environmental Assessment Act* (the Act) and the provisions of Part IV of the Nova Scotia *Environment Act*. As such, and in keeping with the MOA, the EA will be coordinated to reflect requirements contained in both pieces of legislation.

1.2 The Joint Review Panel

A Joint Review Panel (the Panel) consisting of three members will be established by the Minister of the Environment, Canada (under the authority of the Act), and by the Minister of Environment and Labour, Nova Scotia (under the authority of the Nova Scotia *Environment Act*), to consider the possible environmental effects associated with the Sydney Tar Ponds and Coke Ovens remediation project.

1.3 Mandate of the Panel

The Panel will have the responsibility to identify, evaluate and report on the potential environmental effects of the Project. The mandate of the Panel is defined in the Agreement signed by Federal and Provincial levels of government (see Appendix 1). The Agreement and Terms of Reference (TOR) outlines the factors the Panel must consider in conducting its EA. These factors have been considered in the development of the Environmental Impact Statement (EIS) Guidelines. It is the responsibility of the Sydney Tar Ponds Agency (the Proponent) to prepare an EIS that identifies and evaluates the effects of the Project for submission to the Panel. The Proponent is expected to prepare and submit the EIS to the Panel no later than December 30, 2005.

All materials related to the EA of the Project received by the Panel and federal and provincial departments will be made publicly available through a Public Registry.

At the conclusions of the public hearings on the Project, the Panel will prepare a report that will include its findings and recommendations and will submit the report to the Federal and Provincial Ministers.

2. THE PROJECT

Pursuant to the Memorandum of Agreement, the proponent is proposing to remediate the Sydney Tar Ponds and Coke Ovens Sites in the Regional Municipality of Cape Breton (CBRM), Nova Scotia.

The proposed remediation project would involve the removal of selected PCB and PAH contaminated sediments from the Tar Ponds and Coke Ovens Sites, and destroy it in a temporary incinerator that will be located within the CBRM. Sediments that remain in the Tar Ponds would be solidified and stabilized in-place. Water course diversion channels would redirect surface water flowing through the Tar Ponds site. A containment system of barrier walls and an engineered cap would be constructed to reduce exposure and to prevent the movement of contaminants away from the Tar Ponds site. The Tar Ponds site surface would be restored and landscaped in a manner compatible with the natural surroundings of the area and future site uses.

At the Coke Ovens site, selected remaining contaminated soils would be treated in-place using landfarming, a form of bioremediation. Diversion channels and barrier walls would reroute groundwater and surface water flowing through the Coke Ovens site. A containment system of barrier walls and soil cover would be constructed to reduce exposure to contaminants and to prevent the movement of contaminants from the Coke Ovens site. Coke Ovens site surfaces would be restored and landscaped in a manner compatible with the natural surroundings and future sites uses.

Pre-cleanup activities would include construction of parking lots, equipment and supply storage areas, security facilities, offices and washrooms, decontamination facilities for personnel, equipment decontamination pads, and isolation pads. A dedicated use water treatment facility may be required. A temporary incinerator and associated facilities would be commissioned, requiring an area of approximately 2 to 5 hectares. The proponent plans completion of clean-up and capping of the Coke Ovens site by 2011, and the Tar Ponds site by 2014. Final uses of the Tar Ponds and Coke Ovens Sites are not part of the proposed project.

3. THE REVIEW PROCESS

3.1 Environmental Impact Statement

An EA is a planning tool intended to identify the environmental effects, mitigation and follow-up measures that would be implemented to help ensure significant effects are avoided. An Environmental Impact Statement (EIS) is a document, which describes the EA effort.

The EIS document produced by the Proponent will identify the potential environmental effects of the Project. The EIS will serve as the cornerstone of the Panel's review and evaluation of the potential effects of the Project. The EIS will also allow regulators and members of the public to understand the Project, the existing environment, and the potential environmental effects of the Project. The public (including Aboriginal peoples), interested parties and government representatives will be invited to comment on the completeness and accuracy of the EIS in addressing these Guidelines, and to submit materials for the Panel to consider. Should the Panel deem further information necessary, it may arrange for additional studies, which it will include in the Public Registry. The Panel will consider all materials included in the Registry in evaluating the Project.

3.2 Timing

The Proponent will prepare and submit the EIS to the Panel. The Panel will make the EIS available to the public and other stakeholders for examination and comments regarding the document's completeness, accuracy, and compliance with the guidelines. As outlined in the Agreement (Appendix 1) the EIS shall be made available for public examination and comment for a period of forty-eight (48) days. Comments submitted in writing to the Panel will be provided to the Proponent within two days (after the completion of the public examination and comment period) and added to the Registry. The proponent shall, as appropriate, provide to the Panel its response to the written comments no later than fourteen (14) days following the completion of the period of public examination and comment.

Following the Proponent's response, should the Panel believe that deficiencies remain in the EIS, or that the Panel requires additional information for a proper evaluation of evidence, the Panel may require additional information. The request for the additional information shall be issued within fourteen (14) days following the expiration of the period for public examination and comments, or fourteen (14) days following the receipt of written comments from the proponent.

Once the Panel is satisfied that sufficient information has been provided, it will hold public hearings. The Panel will set hearing dates after considering the volume of material accumulated for public review and the right of the Proponent to a timely hearing. In any event, the Panel will give not less than twenty-one (21) days notice of the hearings.

Within fifty-five (55) days of completion of the public hearings, the Panel will prepare and submit its report to the provincial Minister of Environment and Labour and the federal Minister of the Environment. The Report shall include recommendations on all factors set out in section 16 of the Act and, section 12 of the Nova Scotia Environmental Assessment Regulations. The report shall also include a recommendation pursuant to Part IV of the Nova Scotia *Environment Act*.

4. ENVIRONMENTAL IMPACT STATEMENT

4.1 Purpose of the EIS Guidelines

This document provides specific direction to the Proponent regarding the preparation and structure of the EIS. The EIS Guidelines define the issues that the Proponent must address. It is the responsibility of the Proponent to provide sufficient data and analysis on any potential environmental effects to permit proper evaluation by the Panel, the public, and technical and regulatory agencies. The Guidelines outline the minimum information required while leaving the Proponent some latitude in selecting methods to compile the EIS.

5. OVERVIEW OF THE ENVIRONMENTAL IMPACT STATEMENT

5.1 Use of Existing Information

The Proponent is encouraged to consider information in the Public Registry when preparing the EIS, and to make use of existing information related to the environment affected by the Project. When that information is used to meet some of the EIS requirements, include it directly in the EIS or identify its source. This may be done through cross-referencing, direct citation or any other means that permits immediate access. When relying on existing information, comment on its appropriateness and/or relevance over space and time, along with any perceived limitations regarding the inferences or conclusions that have been drawn.

The EIS must provide sufficient information to identify, describe and determine the significance of potential effects on the environment that could arise from the Project.

5.2 Traditional and Community Knowledge and Public Involvement

5.2.1 Use and Respect for Traditional and Community Knowledge

Traditional and community knowledge makes an important contribution to project planning and the assessment process.

Traditional and community knowledge refers to the broad base of knowledge held by individuals and collectively by communities that may be based on

spiritual teachings, personal observation and experience on land and sea or passed on from one generation to another through oral and/or written traditions. This tradition is a dynamic, substantive, and distinct living knowledge.

Traditional and community knowledge shall be obtained and presented in one of two ways:

- The Proponent will make best efforts, with the co-operation of other parties, to incorporate into its EIS traditional and community knowledge to which it has access; and,
- Alternatively, the Proponent may facilitate the presentation of such knowledge by persons and parties having access to this information to the Panel during the course of the review.

5.2.2 Stakeholder Involvement

Within the EIS, the Proponent must demonstrate how concerns of residents, Aboriginal people, local government, organizations and other stakeholders who are likely to be affected by the Project have been identified and addressed. The EIS will describe objectives, methods and results achieved in these discussions.

The Proponent will provide a summary table as a means of showing how the public's concerns have been identified and addressed.

5.3 Presentation of the EIS

The EIS shall be concise, analytical, and complete. When necessary, the reports and documents that will be needed to increase the understanding of the proposed project, shall be provided in a separate volume. The EIS shall have a complete and detailed annotated bibliography of all the studies and reports carried out. The EIS should also include documentation demonstrating how these Guidelines have been addressed.

5.4 Data Presentation

Whenever necessary to clarify the text and to provide a better understanding of what is being discussed/described, the project proponent will include graphs, charts, diagrams, maps, and other visual tools .

Whenever possible, the maps will be provided in the same scale and projection, and should indicate common and accepted place-names used by the local people.

5.5 Executive Summary

The Proponent shall provide a plain language Executive Summary (under separate cover) that gives the reader a concise but complete overview of the EIS. Include background on the Proponent, a brief Project overview, the Project setting (physical, biological and human environments), and key findings of the assessment.

As it may be used as a stand-alone document, the Executive Summary should present the information in a general manner focusing on the main issues and findings. Use maps, tables, and figures to aid the presentation.

5.6 Expectations

In accordance with the Guidelines, the proponent must identify and describe the environmental (biological, physical, human, and socio-economic) effects likely to arise from the Project. If the Proponent omits from the EIS any matters required in these Guidelines, then that omission must be clearly indicated so that the Panel, the public and other interested parties will have an opportunity to comment on and respond to this judgment. When the Panel disagrees with the Proponent's judgment, it may require the Proponent to provide additional information.

The Proponent is expected to make use of EA guidance materials published by federal and provincial departments. The Proponent must employ properly qualified and knowledgeable professionals to conduct the assessment and must document the credentials of experts in an appendix. The EIS must support any analyses, interpretation of results and conclusions by providing all relevant references.

6. INTRODUCTION TO THE ENVIRONMENTAL IMPACT STATEMENT

Provide an introductory chapter that gives a brief overview of the context for the environmental review. The introduction will identify the Proponent, give an overview of the Project, describe the setting, discuss the assessment process, describe the regulatory environment, and highlight the study strategy and methodology.

6.1 The Proponent

The Proponent shall:

- Identify itself and explain current and proposed ownership of rights and interest in the project, operational arrangements, and corporate and management structures;

- Specify the mechanism used to ensure that corporate policies are implemented and respected;
- Present its environmental policy;
- Present its policy on external communications/consultation, and
- Identify key personnel, contractors, and/or sub-contractors responsible for preparing the EIS.

6.2 Project Overview and Purpose

The Proponent shall briefly summarize the project, including its purpose, location, components, and phases, workforce and equipment, associated activities, schedule, and cost

6.3 The Project Setting

The Proponent shall describe the geographic area where the project will be located, including an overview of the social, economical, cultural, and ecological setting. Identify or describe the current and potential future land ownership within the project area.

6.4 The Environmental Impact Assessment Process and Approvals

The Proponent shall:

- Identify the planning context for the EA of the Project;
- Discuss government policies, regulations, and land use plans that have a bearing on the Project;
- Identify the requirement for the EA under the Act and the *Nova Scotia Environment Act.*
- Summarize the main steps in the EA process and the main approvals required to undertake the Project;
- Briefly explain the EA review process; and
- Describe the role of the EIS in the overall EA process.

6.5 Regulatory Process Review

The Proponent shall identify and briefly describe all the federal and provincial environmental regulations and laws that require compliance in relation to the planning and implementation of the project. Attention should also be given to all applicable policies, guidelines, codes, standards, and best management practices that would contribute to the avoidance or reduction of adverse impacts if followed.

The Proponent shall also identify each regulatory approval required for the planning and implementation of the project. Describe the approval process for each topic identified including:

- Activity requiring approval;
- At what stage is the approval or the permit required;
- The regulatory agency in charge of the approval or permit;
- Name of the approval or permit; and
- Associated legislation

6.6 International Agreements

The Proponent shall describe the implications of international agreements, designations, or action plans that may influence the Project or its environmental effects.

7. PROJECT DESCRIPTION

The Proponent shall provide specific and sufficient detail to clarify the nature of the Project and to identify its potential effects. The Project description should, when read in combination with the description of the existing environment, allow the Panel to understand the selection of Valued Environmental Components (VECs), their interactions, and potential effects that may be caused on them by the Project.

For the purpose of the EIS, VECs are interpreted as environmental, socio-economic, human health, reasonable enjoyment of life and property, and cultural, historical, archaeological, paleontological and architectural features that may be impacted, whether positive or negative, by the proposed project. Although the approach to environmental management will influence the entire EIS, describe environmental protection and monitoring strategies later in the EIS. The overall approach to environmental management should be outlined in this section.

7.1 The Need for, the Purpose of, Alternatives to the Project, and Alternative Means of Carrying out the Project

7.1.1 Need for the Project

With reference to the Memorandum of Agreement, the Proponent shall:

- Describe the need for the project;
- Explain the problem or opportunity that the Project is intending to solve; and
- Clearly describe the fundamental rationale for the Project

7.1.2 Purpose of the Project

The Proponent shall describe the purpose of the Project and identify what will be achieved by carrying out the Project. This should include identifying the main functions of the project and who will benefit from it.

7.1.3 Alternatives to the Project

The analysis of alternatives to the Project should establish the broad concepts or remediation plans that were considered in the process of developing the Project, the criteria considered by the Proponent in evaluating those broad concepts or plans and in determining the Proponent's preferred project. Outline the rationale for why the Project, as proposed, was preferred by the Proponent.

In light of the need for the Project, as established above, the Proponent shall:

- Describe in general terms, the alternatives to the Project (those functionally different ways to achieve the Project need and purpose);
- The Proponent shall also describe the do nothing alternative;
- The alternatives to should include broad cleanup options for the Tar Ponds and Coke Ovens Sites, the various combinations of destruction, treatment and containment (in situ and ex situ), and other activities, such as those remediation plans or packages described in the Remedial Actions Evaluation Report (RAER);
- Identify any criteria used to assess the alternatives, such as those listed in the Proponent's Project Description report including the potential health and environmental impacts, remediation risks, technology track records, public acceptance, economic and social benefits, costs, affordability, project duration, and long term operation and maintenance requirements;
- Discuss how community knowledge was considered and how the public was involved in identifying and selecting alternatives to.
- Identify the reasons for selecting the Project from among the alternatives and the reasons for not selecting the other alternatives; and
- Identify in general terms, the major beneficial and adverse effects of the alternatives considered

Discuss how community knowledge was considered and how the public was involved in identifying and selecting alternatives to.

7.1.4 Alternative Means of Carrying out the Project

In summary, this section of the EIS shall include an analysis of the alternative means, which from the perspective of the proponent are technically and economically feasible methods of carrying out the project (the preferred package

of remediation options and actions or activities identified in section 7.1.3 and in the Project Description). For those alternative means that are technically and economically feasible, the EIS shall detail their environmental effects.

The Project, as described in the Proponent's Project Description, consists of a series of actions or activities designed to satisfy the project need and purpose. These actions or activities include water control, removal and destruction of selected contaminants, treatment of selected contaminants in place, on site containment of residual contaminants, site surface restoration and landscaping, and long term monitoring and maintenance.

Recognizing that contamination exists in the two locations (Tar Ponds and Coke Ovens Sites) as identified in the Project Description, the analysis of the alternative means should reflect variations of the actions and activities proposed to address the contamination in the two locations. The Proponent shall identify the alternate means by which these actions or activities could be carried out. This may include, but not be limited to, alternative water control and treatment methods, alternative water treatment facility locations, alternative removal and incineration methods, alternative solidification, stabilization and landfarming methods, alternative containment methods, alternative site surface and restoration methods, alternative materials handling methods, alternative transportation methods and routes, alternative timing and facility sizing and capacity, alternative long term monitoring and maintenance. The Proponent shall identify the criteria and/or thresholds used to determine whether any alternative means are technically and economically feasible.

For those alternative means that are technically and economically feasible the Proponent shall detail their environmental effects. The Proponent shall also identify the major relative advantages and disadvantages (potential beneficial and adverse effects) of the alternative means and the criteria used to determine their advantages or disadvantages. Based on that analysis, identify the reasons for selecting the preferred means utilized in the proposed project and for not selecting other alternative means. Discuss how traditional and community knowledge was considered and how the public was involved in identifying and selecting the preferred alternative means.

7.2 The Proposed Project

This section of the Report shall describe the project as it is planned to progress through the construction, operation and decommissioning phases of its life. Any assumptions that underlie the details of the project design shall be described including how remediation criteria for the sites were developed. Where specific codes of practice, guidelines and policies apply to items to be addressed, those documents shall be cited and may be included as appendices to the EIS, including mapping at an appropriate scale.

7.2.1 Location

Describe the ultimate boundaries of the proposed project in a regional context showing existing and proposed land uses and infrastructure such as road networks, railways, power lines, proximity to settled areas, individual and community water supplies, wetlands, ecologically sensitive areas and archaeological sites.

7.2.2 Construction

Describe permanent or temporary structures that will be constructed, including wastewater management facilities. Detail general construction practices, hours of operation and proposed construction schedules.

7.2.3 Operations

Describe all phases of operations of all components of the Project. Detail all proposed remedial technologies and their design. Describe operation of the incinerator. Describe the bioremediation to be carried out on the Coke Ovens site.
Describe material handling, treatment, and disposal plans. Describe plans for the removal of contaminants from the Tar Ponds and Coke Ovens site, provisions for transportation of materials, including proposed mode and route of transport, identity of the volumes and quantities to be transported, provisions for decontaminations of trailers/railcars.

Describe provisions for storage of contaminated materials (e.g. location of stockpiles), description of loading and transport methods, and provisions for minimizing impacts (e.g. erosion prevention, runoff management, measures to reduce wind blown particle and contaminant dispersion).

7.2.4 Decommissioning and Reclamation

Describe the proposed plans for decommissioning the facilities, including all infrastructure, and reclamation of any impacted sites. Describe long-term monitoring and maintenance requirements. The report shall also discuss the future land use options of the property following reclamation.

7.2.5 Cost and Workforce

For each Project phase, the Proponent shall describe the capital costs, the number of workers required by occupation and/or skill.

7.2.6 Modifications

The Proponent shall describe the management approach to, and conceptual plans for, potential modifications (including expansion or discontinuation) to the physical works or activities described above. At the same time the Proponent shall specify the conditions or potential risks, which would necessitate modifications to the Project. The proposed process to follow when proposing modifications to the Project should be described, including plans for informing the public

8. IMPACT ASSESSMENT METHODOLOGY

This section shall include the study strategy, methodology and boundaries, within which the EIS will be prepared.

The following must be clearly defined:

- The VECs within the study boundaries and the methodology used to identify the VECs. The methodology shall include input from members of the public, government department and agencies and other interested parties;
- The temporal boundaries (i.e. duration of specific project activities and potential effects) for construction and operation;
- The study boundaries, including all space that will be potentially impacted by the project as proposed or subject to subsequent modifications and the methodology used to identify the study boundaries;
- Strategy for identifying potential sources of effects, the potential pathways by which those effects move in the environment and the potential receptors of those effects;
- Strategy for investigating the interactions between the project and each VEC and how that strategy will be used to coordinate the individual studies undertaken; and
- Strategy for predicting and evaluating project effects upon the environment, determining necessary mitigation, remediation and/or compensation; and evaluating residual effects.

9. EXISTING ENVIRONMENT

This section of the EIS shall provide baseline descriptions of the physical, biological and human (socio-economic) environments. A baseline environment is the condition that exists prior to Project development.

The Proponent shall clearly indicate baseline data/information that is not available or existing data that cannot accurately represent environmental conditions in the project area year round.

If the background data have been extrapolated or otherwise manipulated to depict environmental conditions in the Project area, modeling methods and equations shall be described and shall include calculations of margins of error and other relevant statistical information, such as confidence intervals and possible sources of error. The components of the environment to be discussed shall include identified VECs and the following:

9.1 Area Geography

Describe the study area geography and topography.

9.2 Existing and Planned Land Uses

Describe the patterns of current and planned land use in the Project area including, but not limited to, planning strategies, proposed development, and development boundaries. This section should include map(s) to illustrate land uses and provide distances to significant settlements.

9.3 Socio-economic Conditions

Describe the current socio-economic conditions of the area. Provide a demographic profile of the area, including population and population trends. Identify factors that could contribute to in/out migration patterns. Describe education, training and skill levels in the area. Describe infrastructure and institutional capacity.

Provide details of employment rates, character and make up of the local business community, and trends at the local and regional level. Identify key industries in the region and describe their contribution to the local and regional economies. Describe any local and regional economic development goals and objectives identified through community consultation, or existing economic development plans and strategies. Provide details of residential and commercial property values. Describe recreational opportunities in the area.

9.4 Human Health

Assess health of residents of the areas affected by the Project. Employ appropriate qualitative and quantitative indicators regarding elements of health that may be affected by the Project to create baseline data.

9.5 Terrain, Geology, and Soils

In relation to terrain, geology, and soils, the Proponent shall describe the regional/area setting with reference to the topography, geomorphology, bedrock geology, and surficial geology.

9.6 Atmospheric Conditions

The Proponent shall describe the existing or baseline climate conditions and climatic variability and trends, including, but not necessarily limited to:

- Prevailing climatic conditions, seasonal variations, predominant winds including direction and speed, temperature and precipitation (snowfall snow depth, rain, fog);
- Occurrence and frequency of storm and extreme weather events; and
- The focus should be on pertinent climate elements (to which the Project may be sensitive).

9.7 Air Quality

The Proponent shall:

- Describe ambient air quality in the area affected by the Project and define the spatial boundaries of the study area and monitoring, including a rationale for its delineation;
- In the study area, identify current sources of emissions, seasonal variations climatic conditions affecting air quality (e.g., wind direction and velocity) and, if known, assimilative capacity. Characterize the existing air quality and precipitation chemistry, including PM10, PM 2.5, PAHs, VOCs, SO_2 and NOx and any other contaminant of potential concern (COPCs);
- The characterization of air quality should be based on (but not limited to) parameters identified in national, provincial, or other relevant air quality standards and objectives;
- Describe any potentially sensitive receptors or locations; and
- Provide detailed methodology for ambient and emission air quality monitoring, including location, methods, instrumentation, calibrations, protocols, procedures, and rationale.

9.8 Noise

The Proponent shall:

- Describe the existing ambient acoustical environment at the Project site, and in any other areas where Project activities could be expected to have an environmental effect;

- Consider the effects of different meteorological conditions on noise propagation; and
- Provide information on any existing relevant standards, guidelines or objectives with respect to noise levels.

9.9 Water Quality and Quantity

In relation to water quality and quantity, the Proponent shall describe terrestrial water quality and quantity in surface water, groundwater, and wetlands, and pay particular attention to the interactions of the hydrologic components.

9.9.1 Surface Water

The Proponent shall:

- Provide a map delineating the watershed(s) and sub-watersheds within the Project area;
- Identify and delineate within the watershed(s) all recharge and discharge areas, ponds and lakes;
- Identify the location, size and class (based on the Canadian Wetland Classification System) of any wetland within the predicted zone of influence and conduct a wetland evaluation;
- Describe and quantify the hydrological conditions and water quantity and quality for all surface waters by:
    - Describing flow regimes;
    - Seasonal flow patterns;
    - Channel / bed / drainage basin morphology and stability;
    - Sediment load – suspended and bedload;
    - Providing estimates of normal (base and mean) flows and extreme (high and low) flows and water levels; and
    - Characterizing baseline water quality, including physical, chemical, and bacteriological parameters where relevant to identified water use, and related to relevant guidelines or standards. (eg Canadian Water Quality Guidelines).
- Describing sampling protocols and analytical methods used;
- Identify any storm sewers that collect surface water runoff; and
- Describe any surface water use in the area, including both current and potential future uses.

9.9.2 Ground Water

In relation to ground water, the Proponent shall:

- Provide a description of the regional and local hydrogeology of the Project Area. This shall include a discussion of both groundwater quality and quantity;

- Describe the characteristics of surface water and groundwater interactions under different climatic and seasonal conditions;
- Describe any groundwater use in the area, including both current and potential future uses; and
- Utilize the groundwater and surface water data to produce a conceptual/analytical model of the ground water conditions under and around the Project site.

9.10 Marine Environment

In relation to the marine environment, the Proponent shall describe the existing conditions, including water quality, currents, bathymetry and monthly and seasonal tidal activity including neap and spring tides. Describe avifauna, marine mammals, sport and commercial fishing areas, recreational areas, areas of cultural or historical, scientific or biological importance, shipping and navigation, and areas of the seafloor with engineering uses (cables, outfalls, water intakes). Describe marine sediments including the physical and biological processes related to sediment deposition, movement and quality. Include sediment types and physical properties, thicknesses, chemistry, quality and mechanisms and rates of sediment transport.

9.11 Flora, Fauna and Habitat

Identify typical species of flora, habitat types in the Project area, flora species-at-risk and potential habitat for flora species-at-risk in the Project area. Identify typical species of fauna, habitat types in the Project area, fauna species-at-risk and potential habitat for fauna species-at-risk in the Project area. Identify fish habitat that includes (but not limited to) fish spawning, rearing nursery, food supply and migration areas. Field surveys should be described by results, methodology, and temporal framework.

9.12 Heritage Resources

Identify any areas containing features of historical, cultural or archaeological importance. Describe the nature of the features located in those areas.

10. ENVIRONMENTAL EFFECTS ASSESSMENT

The Report shall identify and predict the magnitude and importance of project effects, both positive and negative, on the environment. This section shall address effects on identified VECs, as well as, but not limited to, the following socio-economic, community and biophysical environmental effects.

In addition, this section shall specifically address the environmental effects of malfunctions or accidents. This section shall also address effects of the

environment on the project including a discussion of how potential climate change will impact the project.

10.1 Effects from Existing and Planned Land Uses

The Proponent shall:

- Describe the effect of the proposed Project on present and future commercial/residential/institutional/recreational and resource land uses within the Project area;
- Describe the effect of the proposed project on commercial land values and new business development;
- Describe the potential effects from existing or planned land uses in the project area; and
- Describe effects from existing and planning undertakings in the project area during the lifetime of the project.

10.2 Effects on Socio-economic Conditions

The Proponent shall describe potential socio-economic effects, positive and negative, of the Project. This shall include:

- Describe the potential effects of the proposed project on demographics; education, training and skill levels; infrastructure and institutional capacity in the area;
- Describe the potential effect on the economic conditions of the area, including business operations in the close proximity to the project;
- Describe the potential socio-economic benefits of the proposed project;
- Describe the potential effect on recreational opportunities, including the effects on aesthetics (view planes etc);
- Describe impacts on commercial and residential property values; and
- Describe anticipated changes in traffic density associated with the Project.

10.3 Effects on Human Health

Describe and evaluate the potential effects of the Project on human health. Describe and evaluate potential effects on measures of health that may be affected by the Project.

10.4 Effects on Air Quality

In relation to the effects on air quality, the Proponent shall:

- Describe and quantify the fate, transport and effects on air quality during construction and operations including transportation related activities with particular attention to particulate matter (PM) including PM2.5, PM10 and

total suspended particulate (TSP), nitrogen oxides (Nox), sulphur dioxide (SO2), volatile organic compounds (VOC) and polycyclic aromatic hydrocarbons (PAH) acid gases, carbon monoxide, total hydrocarbons, metals, dioxins and furans, PCBs and chlorophenol levels anticipated;

- Describe the sources, types and estimated quantities of air emissions (including fugitive emissions) under routine conditions and in the case of malfunctions and accidental events;
- Describe the fate, transport and effect of stack emissions and quantify where possible;
- Describe the potential for micro-climate modifications in the vicinity of the project; and
- Describe the predicted greenhouse gas emissions providing an inventory of greenhouse gas emissions from the Project.

10.5 Noise Effects

The Proponent shall describe the potential effects of any predicted increase in noise levels from the project on residential, commercial, recreational and institutional areas and sensitive wildlife habitats.

10.6 Effects on Surface Water

The Proponent shall describe the potential effects of the Project on surface water bodies and wetlands, including effects on surface water uses.

10.7 Effects on Ground Water

The Proponent shall describe any anticipated changes to groundwater quality and quantity. Discuss potential changes in groundwater quality or quantity on users of groundwater, fish, fish habitat, surface water quality and quantity, and wetlands.

10.8 Effects on Marine Environment

The proponent shall describe the effects of the Project on the marine environment.

10.9 Effects on Flora, Fauna, and Habitat

The Proponent shall describe the effects of the project on terrestrial and aquatic fauna, and include a full accounting of effects on species of concern and significant habitats.

10.10 Effects on Heritage Resources

The Proponent shall describe the effects of the Project on heritage resources.

10.11 Effects of Accidents and Malfunctions

The Proponent shall describe the scenarios considered and the rationale for their use. A range of scenarios, including worst-case, should be considered. The Proponent shall describe the environmental effects of accidents and malfunctions.

10.12 Effects of the Environment on the Project

The Proponent shall describe how the environment may affect the Project.

11. PROPOSED MITIGATION

Mitigation includes the elimination, reduction or control of the adverse effects or the significant environmental effects of the Project and may include restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.

The Proponent shall describe all measures that have or will be taken to avoid or mitigate negative effects and maximize the positive environmental effects of the Project. The Proponent should also demonstrate the steps taken to avoid impacts. Describe compensation that will be provided when environmental damage is unavoidable or cannot be adequately mitigated by any other means.

This section shall address, but not necessarily be limited to, the following:

11.1 Regulatory Compliance

Describe any legislation, regulations, guidelines, policies and specifications that will be adhered to during construction and operation of the facility that will lead to avoidance or mitigation of adverse environmental effects.

11.2 Existing and Planned Land Uses

Describe the measures planned to minimize the potential adverse effects on existing and planned land uses.

11.3 Socio-Economic Effects

Describe actions that will be taken to mitigate adverse effects on socio-economic conditions. This shall include mitigation measures planned to address predicted effects on demographics; education, training and skill levels; infrastructure and

institutional capacity in the area; economic activity, residential and commercial property value; recreation opportunities; and traffic patterns. Provide a dispute resolution policy for addressing project related complaints and concerns that may be received from nearby land owners or residents.

11.4 Human Health Effects

Describe actions that will be taken to mitigate adverse effects on human health.

11.5 Air Quality Effects

Describe the use of best available technology that is economically affordable for reducing air emissions and if they will or will not be incorporated into the project, including the rationale for the decisions. Describe measures that will be taken to control emissions from all sources – stationary and mobile. Identify standards and targets for air quality both on site and region wide. Describe any greenhouse gas mitigation plans.

11.6 Noise Effects

Describe measures that will be taken to mitigate any potential increase in noise levels during the Project.

11.7 Surface Water Quality and Quantity

Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to reduce effects to surface water resources. Discuss commitments to provide contingency and remediation plans for any effect to surface water resources, including decrease of water quality or quantity.

11.8 Groundwater Quality and Quantity

Describe all mitigation measures that will be used in construction, operation and decommissioning phases of the Project to reduce effects to groundwater resources. Discuss commitments to provide contingency and remediation plans for any effect to groundwater resources, including decrease of groundwater quality or quantity.

11.9 Marine Environment

Discuss measures that will be taken to minimize the effects of the Project on the marine environment.

11.10 Flora, Fauna and Habitat

Discuss measures that will be taken to minimize the adverse effects of the Project on flora species. Describe the measures that will be taken to minimize the adverse effects of the Project on terrestrial and aquatic fauna.

11.11 Heritage Resources

Describe the measures that will be taken to minimize the effects of the Project on heritage resources.

12. CUMULATIVE EFFECTS

Cumulative effects may occur when the impacts of one project or activity combine with the impacts of other past, present and future projects and activities.

The cumulative impacts assessment must include the following five components:

1) Scoping
2) Analysis
3) Mitigation
4) Significance
5) Follow-up

Scoping: Identify the VECs, or their indicators, on which the cumulative effects assessment is focused, including the rationale for their selection. The spatial and temporal boundaries for the cumulative impact assessment must be presented for each VEC selected. The sources of potential cumulative effects must be identified. Accordingly, identify other projects or activities that have been or will be carried out that could produce impacts a) on the selected VEC; and b) within the boundaries defined; and c) whose impacts would act in combination with the residual impacts of the Project.

Analysis: The analysis of the cumulative effect must enable an understanding of the incremental contribution of all projects or activities, and of the Project alone, to the total cumulative effect on the VEC over the life of the Project. Different types of potential impacts should be discussed, such as synergistic, additive, induced and spatial or temporal overlap. Impact pathways and trends should be included.

Mitigation: Identify tools and approaches to mitigating cumulative impacts, including economic and technical considerations, as well as community involvement. Identify proposed mitigation, including a discussion on goals and effectiveness. Discuss any proposed application of adaptive management. If Project-related cumulative impacts remain following mitigation, discuss the need to pursue regional and/or non-Project specific mitigative measures. In this case, discuss how the Proponent would contribute to, influence or control the implementation of mitigation that extends beyond its Project (e.g., possible

approaches, policies, coordination, partnerships). Discuss any other proposed actions or initiatives that the Proponents would carry out to strengthen or improve aspects of the physical, biological or human environments vulnerable to cumulative impacts.

Significance: For each VEC or indicator assessed, evaluate the significance of residual cumulative impacts and discuss the relative contribution of the Project to those impacts. Identify how significance was determined. The analysis must indicate the Proponents' view as to whether the Project would be responsible for adversely affecting a VEC or indicator beyond an acceptable point and how that VEC relates to the state and trends in the broader physical, biological or human environments.

Follow-up: Follow-up refers to proposed monitoring that would be undertaken following Project approval, specifically to verify the accuracy of cumulative impacts predictions and the effectiveness of mitigation.

13. CAPACITY OF RENEWABLE RESOURCES

Consider the capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of the future would be affected.

Identify those resources likely to be significantly impacted by the Project, and describe how the Project could affect their sustainable use. Identify and describe any criteria used in considering sustainable use.

14. RESIDUAL ADVERSE EFFECTS

This section of the Report shall list and contain a detailed discussion and evaluation of the residual effects for each VEC, including the criteria for determining significance (under the EA Regulations "significant" means, with respect to an environmental effect, an adverse effect in the context of its magnitude, geographic extent, duration, frequency, degree of reversibility, possibility of occurrence or any combination of the foregoing). Residual effects are those adverse effects or significant environmental effects, which cannot or will not be avoided or mitigated through the application of environmental control technologies or other acceptable means. Those effects that cannot be mitigated or avoided shall be clearly distinguished from those effects that will not be mitigated or avoided.

These effects become important in the evaluation of a proposed project as they represent the environmental cost of the Project.

15. EVALUATION OF THE ADVANTAGES AND DISADVANTAGES

This section shall present an overall evaluation of the advantages and disadvantages to the environment, including the VECs, during the construction, operation and decommissioning phases of the Project. The evaluation of the disadvantages shall include an examination of the significance of each disadvantage and a discussion of its justification.

16. PROPOSED COMPLIANCE AND EFFECTS MONITORING AND FOLLOW UP PROGRAMS

The Proponent shall include a framework upon which compliance and effects monitoring will be based throughout the life of the proposed project, including abandonment. Monitoring programs must be designed to determine the effectiveness of the implemented mitigation measures. Monitoring should be designed to incorporate baseline data, compliance data, and real time data. As part of the monitoring program, the Proponent shall describe the compliance reporting methods to be used, including reporting frequency, methods and format.

The Proponent shall include a proposed monitoring schedule which indicates the duration of effects monitoring following Project completion.

The description of the compliance and effects monitoring program shall include any contingency procedures/plans for addressing potential exceedances of environmental protection standards, guidelines or approvals.

The compliance and effects monitoring program shall also indicate who will be responsible for ongoing monitoring as well as any plans to make monitoring results available for peer review or public review.

Discuss the need for, and requirements of, a follow-up program, including consideration of:

- the need for such a program and its objectives;
- the main components of the program;
- how it would be structured;
- the roles to be played by the Proponent, regulatory agencies, Aboriginal people and others in such a program;
- possible involvement of independent researchers;
- the sources of funding for the program; and
- information management and reporting.

17. PUBLIC INFORMATION PROGRAM

This section of the report shall detail the public information program initiated by the Proponent. The Proponent shall describe in detail the opportunities that have been or will be provided to allow the public to express their concerns and receive information on the various phases of project development including planning design, EA review, operation, abandonment, site rehabilitation, post abandonment and monitoring. This section shall include a description of the various stakeholders for this Project and how they were identified and informed of the Project.

The results of public consultation and information sessions shall detail what comments were raised, how they were addressed, including any commitments made by the Proponent.

18. ASSESSMENT SUMMARY AND CONCLUSION

This section of the report shall summarize the overall findings with emphasis on the main environmental issues identified.

Appendix 1

Agreement Concerning the Establishment of a Joint Review Process
for the Sydney Tar Ponds and Coke Ovens Sites Remediation Project
Between
Her Majesty the Queen in Right of Canada as represented by the
Minister of the Environment, Canada
- and -
Her Majesty the Queen in Right of Nova Scotia as represented by the Minister of
Environment and Labour, Nova Scotia ("NSEL")

Preamble

WHEREAS the Minister of the Environment, Canada, has statutory responsibilities pursuant to the *Canadian Environmental Assessment Act*;

WHEREAS the Minister of Environment and Labour, Nova Scotia, has statutory responsibilities pursuant to the Nova Scotia *Environment Act* and has determined the Sydney Tar Ponds and Coke Ovens Sites Remediation to be an undertaking pursuant to subsection 3(2) of the Environmental Assessment Regulations;

WHEREAS the Minister of Public Works and Government Services, Canada, and the Premier of Nova Scotia signed a Memorandum of Agreement (MOA) on May 12, 2004, for the Remediation of the Sydney Tar Ponds and Coke Ovens Sites in the Cape Breton Regional Municipality;

WHEREAS portions of the Sydney Tar Ponds and Coke Ovens Sites are federally and provincially owned and the remediation of the Sites is jointly funded;

WHEREAS the Sydney Tar Ponds Agency (the Proponent) is designated pursuant to the MOA for the management and implementation of the Project;

WHEREAS the Sydney Tar Ponds Agency plans to remediate and rehabilitate the Tar Ponds and Coke Ovens Sites, in accordance with the MOA, which is subject to an environmental assessment under both the *Canadian Environmental Assessment Act* and the Nova Scotia *Environment Act*;

WHEREAS the MOA commits Canada and Nova Scotia to a joint environmental assessment;

WHEREAS the Project was referred to a review panel in accordance with section 29 of the *Canadian Environmental Assessment Act*;

WHEREAS the Minister of Environment and Labour, Nova Scotia, may, pursuant to section 47 of the Nova Scotia *Environment Act*, enter into an agreement with another government agency to conduct a joint environmental assessment review and to adopt for the purposes of the review all or part of that government agency's procedures for environmental assessment;

WHEREAS the Minister of Environment and Labour, Nova Scotia, may, pursuant to section 48 of the Nova Scotia *Environment Act*, enter into an agreement with another government agency to provide for a single hearing process;

WHEREAS the Minister of Environment and Labour, Nova Scotia, and the Minister of the Environment, Canada, have determined that a joint panel review of the Project will ensure that the project is evaluated according to the spirit and requirements of their respective legislation while avoiding unnecessary duplication, delays and confusion that could arise from separate environmental assessments;

WHEREAS the Minister of the Environment, Canada, has determined that a joint review panel should be established pursuant to subsection 40(2) of the *Canadian Environmental Assessment Act*;

THEREFORE, the Minister of Environment and Labour, Nova Scotia, and the Minister of the Environment, Canada, hereby establish a joint review panel for the Project in accordance with the provisions of this Agreement and the Terms of Reference attached hereto as an Appendix.

1.0 Definitions

For the purpose of this Agreement and of the Appendix attached hereto,

"Agency"

means the Canadian Environmental Assessment Agency.

"Day"

means calendar day.

"Environmental Effect"

means, in respect of the Project,

a) any change, whether positive or negative, that the Project may cause in the Environment, including any change it may cause to a listed wildlife species, its critical habitat or the residence of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act* and,

b) any effect on socio-economic conditions, environmental health, physical and cultural heritage, the current use of lands and resources for traditional purposes by aboriginal persons, or on any structure, site or thing including those of historical, archaeological, paleontological or architectural significance and,

c) any change to the project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

"Environmental Impact Statement"

means the document that the proponent has prepared in accordance with the Environmental Impact Statement Guidelines to be prepared by the parties.

"Federal Authority"

refers to such an authority as defined in the *Canadian Environmental Assessment Act*.

"Follow-up Program"

means a program for verifying the accuracy of the environmental assessment of the Project, and determining the effectiveness of any measures taken to mitigate the adverse environmental effects of the Project.

"Joint Review Panel"

means the review panel established jointly by the Minister of Environment and Labour, Nova Scotia, and the Minister of the Environment, Canada, pursuant to this Agreement.

"Memorandum of Agreement"

means the agreement signed by the Premier of Nova Scotia and the Minister of Public Works and Government Services, Canada, on May 12, 2004 for the remediation of the Sydney Tar Ponds and Coke Ovens Sites in the Cape Breton Regional Municipality.

"Mitigation"

means, in respect of the Project, the elimination, reduction or control of the adverse environmental effects of the Project, and may include restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.

"NSEL"

means Nova Scotia Environment and Labour.

"Parties"

means the signatories to this Agreement.

"Project"

means the Sydney Tar Ponds and Coke Ovens Sites Remediation Project, located in Sydney, Nova Scotia, as described in the *Project Description* document submitted by the Sydney Tar Ponds Agency and summarized in Part I of the Appendix attached hereto.

"Report"

means the document produced by the Joint Review Panel which shall contain the recommendations of the Joint Review Panel pursuant to the Nova Scotia *Environment Act* and the Joint Review Panel's rationale, conclusions and recommendations, including any mitigation measures and follow-up program, pursuant to the *Canadian Environmental Assessment Act* with respect to the environmental assessment of the Project.

"Responsible Authority"

refers to such an authority as defined in the *Canadian Environmental Assessment Act*.

2.0 Establishment of the Joint Review Panel

2.1 A process is hereby established for the creation of a joint review panel, pursuant to sections 40, 41 and 42 of the *Canadian Environmental Assessment Act*, and sections 47 and 48 of the Nova Scotia *Environment Act*.

2.2 The Agency and NSEL will make arrangements for the coordination of announcements respecting the joint review of the Project, including review process initiatives that precede the establishment of the Joint Review Panel.

3.0 Constitution of the Joint Review Panel

3.1 The Joint Review Panel shall consist of three members, one of whom shall be the chair.

3.2 The Joint Review Panel members including the chair will be appointed by the Minister of the Environment, Canada, and the Minister of Environment and

Labour, Nova Scotia, from a list of nominees selected by the Parties. Following interviews to be conducted jointly by the Agency and NSEL, each of the Parties will select three nominees and at least one nominee selected by each of the Parties will be appointed members of the Panel. The parties will agree on the appointment of a chairperson. The members of the Joint Review Panel will be appointed following release of the final EIS Guidelines.

3.3 The Joint Review Panel members shall be unbiased and free from any conflict of interest relative to the Project and are to have knowledge or experience relevant to the anticipated environmental effects of the Project.

4.0 Conduct of Assessment by the Joint Review Panel

4.1 The Joint Review Panel shall conduct its review in a manner that discharges the requirements set out in the *Canadian Environmental Assessment Act*, Part IV of the Nova Scotia *Environment Act* and in the Terms of Reference attached hereto as an Appendix.

4.2 All Joint Review Panel hearings shall be public and shall provide for public participation.

4.3 The Joint Review Panel shall have all the powers and duties of a panel set out in section 35 of the *Canadian Environmental Assessment Act*.

5.0 Secretariat and Administrative Matters

5.1 Administrative, technical, and procedural support for the Joint Review Panel shall be provided by a Secretariat. The Secretariat shall be the joint responsibility of the Agency and NSEL.

5.2 The Secretariat shall report to the Joint Review Panel and shall be structured so as to allow the Joint Review Panel to conduct its review in an efficient and cost-effective manner.

5.3 Prior to the appointment of the Joint Review Panel, the Agency and NSEL shall prepare a budget estimate for the joint review.

5.4 Costs associated with the review will be apportioned between the parties 70% federally funded and 30% provincially funded. A detailed cost-sharing agreement is to be finalized by the Agency and NSEL prior to the appointment of the Joint Review Panel.

6.0 Record of Joint Review and Report

6.1 A public registry consisting of all submissions, correspondence, hearing transcripts, exhibits and other information received by the Joint Review Panel

and all public information produced by the Joint Review Panel relating to the environmental assessment of the Project shall be maintained by the Secretariat during the course of the review in a manner that provides for convenient public access, and for the purposes of compliance with section 55 of the *Canadian Environmental Assessment Act* and the practices of NSEL.

6.2 On completion of the review of the Project, the Joint Review Panel shall prepare a Report for submission to the Minister of the Environment, Canada, and the Minister of Environment and Labour, Nova Scotia.

6.3 The Report shall include recommendations on all factors set out in section 16 of the *Canadian Environmental Assessment Act* and, section 12 of the Nova Scotia Environmental Assessment Regulations. The report shall also include a recommendation pursuant to Part IV of the Nova Scotia *Environment Act.*

6.4 Once completed, the Joint Review Panel will submit the Report, to the Minister of the Environment, Canada, and the Minister of Environment and Labour, Nova Scotia, and the Parties will then make the Report public.

6.5 Once the Report is submitted to the Minister of the Environment, Canada, and the Minister of Environment and Labour, Nova Scotia, the responsibility for the maintenance of the public registry, pursuant to the *Canadian Environmental Assessment Act*, will be transferred to the Responsible Authorities.

6.6 All Responsible Authorities shall take into consideration the Report submitted by the Panel and, with the approval of the Governor in Council, respond to the Report. Then, the Responsible Authorities shall take one of the courses of action provided for in subsection 37(1) of the *Canadian Environmental Assessment Act* that is in conformity with the approval of the Governor in Council.

6.7 The Minister of Environment and Labour, Nova Scotia, shall consider the recommendation of the Panel, and either approve with conditions, or reject the Project.

6.8 The Parties will consult and coordinate on the nature and timing of their respective decisions on the project.

7.0 Other Government Departments

7.1 At the request of the Joint Review Panel, Federal Authorities and provincial government agencies having specialist knowledge with respect to the Project shall provide available information and knowledge in a manner acceptable to the Joint Review Panel.

7.2 Subject to article 7.1 and subsection 12(3) of the *Canadian Environmental Assessment Act*, nothing in this agreement shall restrict participation by way of

submission to the Joint Review Panel by other federal or provincial government departments or bodies.

8.0 Participant Funding

8.1 Participant funding for the joint review will be provided and administered by the Agency pursuant to the federal Participant Funding Program.

9.0 Amending this Agreement

9.1 The Parties may amend this Agreement by written memorandum executed by both the Minister of the Environment, Canada, and the Minister of Environment and Labour, Nova Scotia. Subject to section 27 of the *Canadian Environmental Assessment Act*, this agreement may, with 30-day written notice, be terminated by either party at any time during the joint review.

In witness whereof the Parties hereto have put their signatures this __13_ day of __July___ 2005.

_____Original signed by:_____
Minister of the Environment
Canada

_____Original signed by:_____
Minister of Environment and Labour
Nova Scotia

Appendix

Terms of Reference for the Joint Review Process

Part I - Project Description

Pursuant to the Memorandum of Agreement, the Sydney Tar ponds Agency (the proponent) is proposing to remediate the Sydney Tar Ponds and Coke Ovens Sites in the Regional Municipality of Cape Breton (CBRM), Nova Scotia.

The proposed remediation project would involve the removal of selected polychlorinated biphenyl (PCB) and polycyclic aromatic hydrocarbon (PAH) contaminated sediments from the Tar Ponds and Coke Ovens Sites, and destroy it in a temporary incinerator that will be located within the CBRM. Sediments that remain in the Tar Ponds would be solidified and stabilized in-place. Water course diversion channels would redirect surface water flowing through the Tar Ponds site. A containment system of barrier walls and an engineered cap would be constructed to reduce exposure and to prevent the movement of contaminants away from the Tar Ponds site. The Tar Ponds site surface would be restored and landscaped in a manner compatible with the natural surroundings of the area and future site uses.

At the Coke Ovens site, selected remaining contaminated soils would be treated in-place using landfarming, a form of bioremediation. Diversion channels and barrier walls would reroute groundwater and surface water flowing through the Coke Ovens site. A containment system of barrier walls and soil cover would be constructed to reduce exposure to contaminants and to prevent the movement of contaminants from the Coke Ovens site. Coke Ovens site surfaces would be restored and landscaped in a manner compatible with the natural surroundings and future sites uses.

Pre-cleanup activities would include construction of parking lots, equipment and supply storage areas, security facilities, offices and washrooms, decontamination facilities for personnel, equipment decontamination pads, and isolation pads. A dedicated use water treatment facility may be required. A temporary incinerator and associated facilities would be commissioned, requiring an area of approximately 2 to 5 hectares. The proponent plans completion of clean-up and capping of the Coke Ovens site by 2011, and the Tar Ponds site by 2014. Final uses of the Tar Ponds and Coke Ovens Sites are not part of the proposed project.

Part II - Components of the Review Process

1. The Agency and NSEL shall develop joint draft guidelines for the preparation of the Environmental Impact Statement building on the preliminary guidance contained in the document entitled "Remediation of

the Sydney Tar Ponds and Coke Oven Sites – Draft Scoping Document" prepared by Public Works and Government Services Canada in consultation with Environment Canada and Transport Canada and dated February 2005. The public and stakeholders shall be provided with 30 days to review the draft guidelines and provide comments to the Agency and Nova Scotia Environment and Labour.

2. Within 30 days of the close of the comment period specified in clause 1, after taking into account the comments received by the public and stakeholders, the Parties shall issue the Environmental Impact Statement guidelines (the Final Guidelines) to the proponent,

3. The Parties shall require the proponent to prepare the Environmental Impact Statement in accordance with the Final Guidelines issued by the Parties. The Parties expect the Proponent to submit the Environmental Impact Statement to the Joint Review Panel no later than December 30, 2005

4. The Joint Review Panel shall require the proponent to distribute the Environmental Impact Statement for examination and comment by the public and stakeholders to determine whether additional information should be provided before convening public hearings. The Environmental Impact Statement shall be made available for public examination and comment for a period of 48 days.

5. Written comments received pursuant to clause 4 shall be made public and be provided to the proponent by the Joint Review Panel within two days. The proponent shall, as appropriate, provide to the Joint Review Panel its response to the written comments not later than 14 days following completion of the period for public examination and comment.

6. Should the Joint Review Panel identify deficiencies after reviewing the Environmental Impact Statement, and in consideration of any comments received from the public, stakeholders or the proponent pursuant to clauses 4 and 5, the Joint Review Panel may require additional information it deems necessary from the proponent. Any request for additional information shall be issued within 14 days following the expiration of the period for public examination and comment described in clause 4 or 14 days following receipt of written comments from the proponent as described in clause 5, whichever occurs later.

7. The Joint Review Panel shall schedule and announce the start of its public hearings once it is satisfied that the necessary information has been provided; it shall provide public notice of 21 days prior to the start of the hearings. The hearings shall not exceed 21 days in duration. A longer

period would require approval by both parties.

8. The Joint Review Panel will hold its hearings within the Cape Breton Regional Municipality.

9. The Joint Review Panel shall deliver its Report to the Parties to this agreement within 55 days following the close of the public hearings. The Parties will then make the Report public.

Part III - Scope of the Environmental Assessment and Factors to be Considered in the Review

The Minister of the Environment, Canada, and the Minister of Environment and Labour, Nova Scotia, have determined that the Joint Review Panel shall include in its review of the Project, consideration of the following factors:

a. Purpose of the Project
b. Need for the Project
c. Alternative means of carrying out the Project that are technically and economically feasible and the environmental effects of any such alternative means
d. Alternatives to the Project
e. The location of the proposed undertaking and the nature and sensitivity of the surrounding area
f. Planned or existing land use in the area of the undertaking
g. Other undertakings in the area
h. The environmental effects of the Project, including the environmental effects of malfunctions or accidents that may occur in connection with the Project and any cumulative environmental effects that are likely to result from the Project in combination with other projects or activities that have been or will be carried out.
i. The significance of the effects referred to in h)
j. The socio-economic effects of the Project
k. The temporal and spatial boundaries of the study area(s)
l. Comments from the public that are received during the review
m. Steps taken by the proponent to address environmental concerns expressed by the public
n. Measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the Project
o. Follow-up and monitoring programs including the need for such programs
p. The capacity of renewable resources that are likely to be significantly affected by the Project to meet the needs of the present and those of the future
q. Residual adverse effects and their significance

APPENDIX 2 – Glossary and Acronyms

Adverse Effect: means an effect that impairs or damages the environment, including an adverse effect respecting the health of humans or the reasonable enjoyment of life or property.

Agency: means the Canadian Environmental Assessment Agency.

Agreement: means the Agreement between Canada and Nova Scotia for the establishment of the Joint Review Panel (see Appendix 1).

Contingency Plan: means a program intended to address malfunctions, accidents or unplanned events that may occur in connection with the proposed Project.

Cumulative Environmental Effect: means the additive and interactive effects of the proposed Project in combination with other projects or activities that have been or will be carried out.

Day: means a calendar day.

Environment: means the components of the earth and includes:

a. land, water and air, including all layers of the atmosphere,
b. all organic and inorganic matter and living organisms,
c. the social, economic, recreational, cultural, spiritual and aesthetic conditions and factors that influence the life of humans and communities, and
d. a part or combination of those things referred to in paragraphs (a) to (c) and the interrelationships between two or more of them.

Environmental Assessment: means an assessment of the environmental effects of the proposed Project that is conducted in accordance with the Agreement and Terms of Reference.

Environmental Effect: means, in respect of the Project,

a. any change, whether positive or negative, that the Project may cause in the Environment, including any change it may cause to a listed wildlife species, its critical habitat or the residence of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act* and,
b. any effect on socio-economic conditions, environmental health, physical and cultural heritage, the current use of lands and resources for traditional purposes by aboriginal persons, or on any structure, site or thing including those of historical, archaeological, paleontological or architectural significance and,

c. any change to the project that may be caused by the environment, whether any such change or effect occurs within or outside Canada.

Environmental Impact Statement (EIS): means the document that the proponent has prepared in accordance with the Environmental Impact Statement Guidelines to be prepared by the parties.

EIS Guidelines: means the direction provided to the Proponent by the Panel on matters which must be addressed in the Proponent's Environmental Impact Statement.

Follow-up Program: means a program to

a. verify the accuracy of the environmental assessment of the proposed Project, and
b. determine the effectiveness of any measures taken to mitigate the adverse environmental effects of the proposed Project.

Mitigation: means in respect of the Project, the elimination, reduction or control of the adverse environmental effects of the proposed Project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means,

Panel: means the Joint Review Panel appointed pursuant to the Agreement.

Project: means the Sydney Tar Ponds and Coke Ovens Sites Remediation Project, located in Sydney, Nova Scotia, as described in the Project description document submitted by the Sydney Tar Ponds Agency and summarized in the Agreement.

Proponent: means the Sydney Tar Ponds Agency.

Residual Effect or Impact: means an environmental effect remaining after all mitigative measures have been applied.

Responsible Authority: refers to such an authority as defined in the *Canadian Environmental Assessment Act*.

Secretariat: means the administrative staff in support of the Joint Panel activities, established under the terms of the Agreement.

Terms of Reference: means the Terms of Reference for the Panel, as set out in the Agreement (Appendix 1).

Valued Environmental Components: means selected components of the physical, biological and human environments that may be impacted, positive or negative, by the Project and which will be the focus of the environmental assessments.